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ABSTRACT

This paper is concerned with the human capital theory of education as it is employed in designing, justifying, and funding African educational programs. According to this theory, where the most measurable and direct relationships between the world of work and that of school are purported to exist, those individuals who invest in education are thought to become more productive workers and earn higher incomes. Opportunities for employment in the "formal sector" are shrinking; self-employment provides the largest share of jobs. The "informal sector" is a loosely defined term that encompasses an ubiquitous heterogeneous phenomenon: it refers to the labor of small firms and individuals, often with minimal resources. It crosses gender and class backgrounds, and engages a wide variety of individuals with a highly diverse set of educational properties. Educational characteristics include (1) entrepreneurs, usually the best educated; (2) wage earning firm workers who undergo an informal apprenticeship; (3) independent workers engaged in areas like shoe, bicycle, and watch repair, who are difficult to train, often illiterate, and too poor to afford opportunity costs and transportation; and (4) casual workers such as domestics, gardeners, and construction laborers, most of whom are illiterate and learn skills only incidentally on the job. This fourth group is often the entry point, socializing young people into the working world. This document surveys the empirical data available and concludes that there is a considerable demand on the part of microentrepreneurs to learn specific aspects of their business and technical skills. The increasing levels of literacy in Africa may not aid in creating more efficient vocational education. Lack of monitoring and evaluation criteria has been a major weakness of vocational education in Africa. (DK)

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Research Perspectives on African Education and the Informal Sector

by

Benson Honig

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Definition and importance of the informal sector:

Educational theorists have broadly cast education into one of three main roles: as a tool for social control [Bowles and Gintis 1976]; to create better citizens for the nation-state[Meier 1970, Seymour 1974 Meyer,Tyack et al 1979]; or to produce a more productive workforce, in terms of human capital [Shultz,1959, Krueger, 1968, Becker, 1974, Psacharopoulos 1985b].

While all three theoretical frameworks have been employed at various times and locations in designing, justifying, and funding African educational programs, the human capital model has maintained dominance. The World Bank plays a pivotal role in this matter, not only through the provision of loans, but also indirectly, through the sponsorship of a vast number of systematic research projects on the continent [Middleton 1989]. The United Nations, as well as the major economic powers of Europe, and North America, have also made substantial investments, particularly in vocational education in Africa [Hultin 1987].

This paper will concern itself primarily with human capital theory, where the most measurable and direct relationships between the world of work and that of school are purported to exist. Those individuals who invest in education are thought to become more productive workers, and earn higher incomes.

Beginning with the end of World War II, newly independent African countries expanded educational opportunity at tremendous rates, more than tripling enrollments [Craig 1981]. One unanticipated effect has been a significant reduction in the employment prospects for secondary school graduates, particularly those of lower

classes and rural backgrounds. Although opportunities in the formal sector have been severely limited, self employment has provided the largest share of jobs, comprising between 40-60 per cent of the urban labor force of most African countries, and well over 20 million individuals. [Fluitman, 1989].

The **"informal sector"** (also referred to as "I.S." in this paper) is a loosely defined term which encompasses a ubiquitous heterogeneous phenomenon: the labor of small firms and individuals, often with minimal resources; usually operating in the "grey" areas with respect to legality; employing a wide range of activities and services. The celebrated 1971 Nairobi conference organized by the ILO provided the following characteristics of informal activity:

i. ease of entry;
ii. reliance on indigenous resources;
iii. family ownership of enterprise;
iv. small scale of operation;
v. operates in a semi-permanent or temporary structure or in a variable location;
vi. skills acquired outside the formal education system;
vii. operating in unregulated and competitive markets

The Kenyan government describes informal activity as follows: *"Small-scale manufacturing, retail trading, building and construction, and the provision of services. Manufacturing activities include the fabrication of metal goods (often using waste materials from the formal sector) furniture making, tailoring, shoemaking, and handicrafts. Trading activities include street hawing, operations of food and retail kiosks, sale of charcoal, etc. The services include shoe-shining, repair work (clothes, shoes, vehicles, watches, furniture), newspaper vendors, barbers, car-washing, etc... [Republic of Kenya 1983 p.211].*

The informal sector is a heterogenous sector that crosses gender and class

backgrounds, and engages a wide variety of individuals with a highly diverse set of educational properties. Their educational characteristics have been summarized in the following table by Herschback [Herschback 1989]:

Educational Characteristics of the Heterogeneous Informal Sector

Market Segment	*Educational Characteristics*
Entrepreneurs (firm owners)	Best educated
Firm workers wage earning;	Usually informal apprenticeship
Independent workers shoe bicycle, watch repair	Difficult to train, too poor to afford opportunity costs and transportation. Many illiterate.
Casual workers domestics, gardeners, construction laborers	Most are illiterate, skills learned incidentally on the job. Should train for more productive jobs. Often the entry point for young people, helps socialize them into the working world.

Table 1

Formal education and the Informal Sector:

Throughout Africa, governments have sought to institute curricular programs that reflect both the demographic and the labor market shifts of their countries, while acknowledging the importance of the informal sector. The result has been a strong interest in various types of vocational education. Their activities are typically justified by one or a combination of four goals:

1. An acknowledgement that the state has a responsibility to provide employment for all of its citizenry, and a belief that vocational education helps individuals attain and create employment.

2.To address issues of equity, by deflecting criticisms that academic pursuits promote a white collar bureaucratic mentality.

3.To address issues of "development" operating under the assumption that economic advancement is technology led, justifying the necessity for schools to enhance worker training beyond traditional apprenticeship programs.

4. To stem the tide of rural to urban migration[1].

The vocationalization of education typically focuses on one of two alternative strategies. Either attempts are made to strengthen separate vocational institutions, usually at the secondary level, or efforts are aimed at introducing curriculum diversification programs, which introduce pre-vocational subjects to primary and

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[1]Previously, the attempt to introduce agricultural work to the school environment in a number of African countries did little to stem the tide of urban migration.(Tanzania, Kenya, rwanda, Upper Volta, Benin, Uganda, and Botswana all tried this out.).

secondary students. The latter is often justified by asserting that drop outs and repeaters (who make up a significant component of the I.S.) will benefit. Unfortunately, labor market considerations have rarely informed these investment strategies [Middleton and Demsky 1989].

In general, countries which have low levels of secondary enrollment ratios tend to expand vocational schools, while those with over 50% secondary enrollments favor diversification and non formal education [Hultin 1987]. A good argument can be made to support this gradual transition: immediate demands for a technical labor force suggest the need for parallel vocational education. Once primary education becomes universal, (and universal literacy and numeracy are achieved), the level of national development will most likely demand more middle level manpower, such as technicians. Diversified secondary schools, offering a mixed curriculum with a range of adult and specialized technical education, are more suitable (and less expensive) for training the non academically oriented graduates of primary institutions [Hultin 1987].

Thus, schools play two roles in preparing students for the changing labor environment in Africa. Firstly, schools can provide specific training for students for eventual work in the informal sector: for example; bookkeeping, marketing, quality assurance, and finance classes taught at an appropriate level. Secondly, they can alter the expectations students (and their families) have regarding work possibilities. Currently, modern sector employment carries the most prestige in Africa. New awareness of the I.S. and self employment can enhance the desirability of

microenterprise employment. This can be accomplished by developing ties between formal educational institutions and successful I.S. enterprise, as well as by conducting seminars and presentations regarding these possibilities.

In terms of the formal educational system, one of the most critical decisions is identifying when to begin instituting formal educational curricula in support of informal sector skills acquisition. King argues in favor of the primary levels. He points out that one of the most significant aspects of primary schools in Africa is their "ordinariness", which reflects the probability of informal employment by the students. He characterizes these schools as popular based institutions built of available materials in consonance with local village life [King 1977 pp.36-37]. In this view, the transition from primary school to the informal sector is actually quite normal, and the formal educational experience beneficial in terms of enhanced communication skills and the desire for self improvement.

Vocational Education

Views on vocational education have endured cyclical periods ranging from deference to disdain: Benavot refers to this as the "rise and fall of vocational education" [Benavot 1983]. As we are presently emerging from a period of skepticism, it is reasonable to anticipate a future "rise" of interest in vocational education. Bilateral and Multilateral assistance organizations play a large role in promoting these educational trends. A recent World Bank policy paper provides an illustrative example: *"The Bank faces a significant opportunity, and an equally significant challenge,*

in providing support for vocational education and training over the balance of the century...The challenge is posed by the problems of developing cost-effective training systems in small low income countries, notably in Sub-Saharan Africa[Middleton and Demsky 1988].

Although there has been no conclusive study examining the role of education on economic growth in Africa, for which much investment is predicated, there has been a limited amount of cross national research that seems to indicate positive returns for vocational education during certain periods. For example, one study found that vocational education had a slightly stronger effect than general education on economic growth for all Less Developed Countries during the period between 1955-1970, however, it had a small negative effect for the period between 1965-1980 [Benavot 1986].

Vocational curriculum:

The institution of vocational education has been universally plagued with two major limitations: cost and relevancy. Critics often note the difficulty in obtaining suitably trained vocational instructors, and lament the lack of transferability of vocational programs to the working world. Instructors often teach antiquated methods which have little marketability for the self employed or informal sector production [Wright 1986]. A further complication pertaining to African vocational and non-formal education is that curriculum development is not typically a component of project development. Rather, there is a reliance on expatriate teachers and teacher trainers to design appropriate courses [Middleton 1989]. This transference of curriculum from

one environment [the expatriate's], to a radically different one [the host country], further divorces the relationship between the demands of the marketplace to the supply of skilled students.

Cost is arguably the major constraint in expanding African education. Pure vocational programs cost upwards of six times that of traditional schooling. Even supplemental courses are expensive: industrial education courses in Kenya are 2½ as expensive as science, and 8 times more expensive than math or Kiswahili; in terms of initial development costs per student [Lauglo 1986]. Critics of African vocational education point to the high costs and lack of employability of the graduates [Middleton 1988].

Common schools and "diversification"

One alternative to separate vocational schools is to incorporate vocational elements into the formal educational curriculum, referred to as diversification. The World Bank's enthusiasm toward diversification at times inspired educational policy that was inappropriately transferred to the countries in question. Scarce resources often favored the expansion of laboratories and technical and trade schools over general educational expansion [Wright 1986, Middleton 1989]. Much of the rationale for this expenditure in Africa was either based on overly optimistic manpower

surveys[2], or for the desire to replace expatriate managers and technical workers.

The joint diversification goals of relevance and equity have produced arguably unfavorable results. Psacharopoulos and Loxley found that there was a curriculum bias in Tanzanian diversified secondary schools, such that the students from lower class backgrounds favored technical and agricultural programs, while those from higher income families chose academic and commercial programs [Psacharopoulos and Loxley 1985]. This class based selection began at the secondary level, where children of fathers with the highest levels of education (more than 8 years) were six times more likely to be found in secondary school to begin with. Psacharopoulos was able to confirm, however, a demonstrated gain in achievement in the particular areas of vocational specialization (such as agricultural, technical, and commercial achievement tests for these respective schools), controlling for a range of other factors[3]. The annual costs of diversified technical schools in Tanzania were about 14% higher than with the academic schools. Tracer studies conducted one year after graduation seemed to indicate little difference regarding a student's status - whether working, training, looking for work, or continuing on to higher education, despite the type of school attended.

Psacharopoulos found that the vocational exposure of diversified schools

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[2]"In the majority of cases [manpower requirements]were forecast from admittedly inadequate data, ...not from global forecasts, but from enterprise surveys" [middleton 1989 pp26-27].

[3] independent variables included parents' background, amount spent on teachers, and verbal and math aptitudes.

seemed to have little if any immediate effect on either finding or creating employment. Only technical students seemed to show a correspondence between employment and their area of specialization. Psacharopoulos concluded that the economic returns for diversified education were negligible:

> *" By any standard, the rates of return in Tanzania are low ranging from 2 to 6 percent. The technical bias has the lowest return - a reflection of the higher unit cost associated with this bias. Conversely, the academic bias exhibits the highest rate of return. All that can be said at this point, is that the first indications do not corroborate the hypothesis that the introduction of pre-vocational studies into secondary schooling can be justified on the basis of their economic payoff being greater than for academic schooling"[Psacharopoulos 1986].*

A similar failure to identify a close correspondence between technical education and work was found in a study of Kenyan diversified schools [Lauglo and Narman, 1986]. One year after taking their "O level" examinations, students who had four or more years of Industrial Education (I.E.) demonstrated little variation with their non-IE counterparts regarding the ability to find work, undergo training, or continue with their education[4]. This study also found that those students who scored **lowest** in their fourth form examinations were significantly more likely to obtain work. This apparent anomaly might be due to realizations based on lower expectations, but significantly,

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[4] These findings were summarized as follows: *"One year after "O" levels, students with greater exposure to IE possess no advantage over others in finding employment. Hardly anyone is self-employed after one year.. For those who do not stay on in school, the search for employment is so difficult that most remain unemployed after one year. Among those who find employment, most former IE students do not obtain jobs that seem to relate to IE in terms of skill requirements"[Lauglo 1986]*

these findings undervalue both the effects of credentialling and of curricular exposure. Rather, the authors speculate that kinship and personalistic relations are the most significant components in obtaining employment.

It is important to consider that rates of return to education may reflect a salary bias rather than an inherent social inefficiency. For example, many African bank clerks and secretaries are paid wages similar to or in excess of automobile mechanics, yet the costs of their education may be considerably less. In such conditions, rates of return might reflect a segmented labor market rather than the true social rates of return [Carnoy, 1980, Gordon, 1982]. Labor market segmentation theory posits that the most lucrative jobs will be allocated according to criteria unrelated to productivity, such as ethnicity, gender, or social stratification. Empirically tested, occupational income will not be determined solely by productivity compensating wage differentials.

Another critical issue is that individuals often start their own firms much later in life, while others do not enter the informal labor market until well after formal education is completed. One study in Kenya found that only six out of 1080 students were self employed one year after their exams, limiting the applicability of IE considerably [Narman 1988]. A follow up three years later found little if any correlation between learning at an IE school and obtaining employment. The apparent failure of formal education to stimulate self employment was also identified in a study of Sierra Leone, where less than 5% of the form 5 (secondary) students planned to start their own business [Wright 1986]. Such findings seriously question the utility of current diversification strategies in Africa.

Enterprise education and education for self-employment

Attempting to promote informal sector skills at the primary level certainly has a number of distinct advantages. Firstly, it provides exposure to the largest educational segment, as relatively few African students are able to participate in secondary education. Secondly, cost differentials are minimized, as the level of instruction is typically the most basic, utilizing available materials and technologies. And Thirdly, it provides an opportunity to alter prejudices and misconceptions regarding the social status of informal sector activity. King emphasizes the merits of this last point, and refers to the validation offered through exam based certification as follows:

> ...*"the basic school finds it very hard to teach beyond the existing technology of the informal sector that surrounds it; and in practice, it very often falls far short of such expertise. Second, the informal sector clearly does not need any help from the schools in developing and reproducing expertise in the various trade; this happens through the sector's own systems of socialization. But third, by making practical work subject to national examination, attitudes towards productive work can gradually alter in ways that may be hard to quantify, but that are nevertheless important.*[King p.28 in Fluitman 1989].

Unfortunately, systematic evaluation of the social or economic returns to the African I.S. by curricula intervention at the primary level will be difficult to empirically test. Aside from the lack of resources, there may be insufficient infrastructure and stability to undertake conclusive longitudinal studies in the foreseeable future.

Non formal and Informal Education and the I.S.

Non formal education can be roughly characterized as "out of school" education

which provides functionally oriented training or skill enhancement for specific sub-groups, often aimed at productive employment. It is frequently cited as an alternative educational "track" for those who cannot continue with formal education. One of the major driving forces of non formal education is the asserted irrelevancy gap between formal education and national development [Simkins 1976, Coombs 1968, Bock et al. 1983]. Formal education is cited as wasteful, rigidly structured, credential based, and hierarchical. Non formal education, by contrast, is thought to be efficient, flexible, practical, and non-hierarchical. A typology comparing formal and non formal education is presented in Table2.

Primary school curriculum: formal vs Non-formal[a]

Grade	Formal Sector, trained teachers	Non-formal, community experienced teachers
1	Language, Numeracy	Nature Study, Religion, Games
2	Language, Numeracy	Local studies, horticulture, crafts, religion,
3	Language, numbers, science	Manual crafts, Religion, Civics, Games
4	add history and geography	add history and geography
5	add history and geography	add history and geography
6	add history and geography	add history and geography

Table 2

The World Bank, which has supported many non formal programs, characterizes African non-formal education as follows:

> *"...It serves mainly young adults, many of whom are the same age as their counterparts in the formal school; much of the activity is organized locally and takes place with little or no direct*

[a]from Coles P, 1982p.32

intervention and control from the state beyond some minimal registration and supervision; the young recipients (or their families) often pay for courses that are, in some sense, equivalent to those offered in the schools or in formal industrial training; even those who pay for instruction are typically drawn from the poorer elements of rural and urban society, and they are often obliged to combine their education or training with work; many of the courses taught, especially those organized through nongovernmental organizations, have been negotiated with the participants or their representatives and, to this extent, reflect the needs of the community [World Bank 1988].

By skirting the urban biases typical of African ministries of education, non-formal programs offer tremendous possibilities of effective skill development as well as social change. Because of the significant interaction between environmental and market forces and the curriculum itself, non-formal education presents a unique opportunity for promoting rural innovation. As Harbison states:

"...nonformal education often provides greater opportunity for innovation than centralized formal-education bureaucracies do." [Harbison 1973].

Some examples of African nonformal education relevant to the informal sector are as follows:

The village Polytechnics of Kenya, located in rural areas, designed to provide artisanal skills.

The vocational Improvement Centers in Northern Nigeria, which aim to improve the skills of artisans and journeymen workers.

The Rural Artisan Training program in Senegal, which attempts to develop skilled non-farm work such as manufacturing and construction [McLaughlin 1979].

Because of the local empowering nature of nonformal education, it often represents a challenge to the formal institutional arrangements associated with

governments and ministries of education. Coles has identified four structural requirements for effective nonformal education, as follows:

1.Non-formal education must be regarded as an integral part of national development consonant with national objectives.

2.viewed as a national service and be given an identifiable framework with which to operate in.

3.be an integral part of the education system

4. must be adequately staffed with trained people.[Coles 1982].

Empirical studies of training and skill acquisition

Empirical studies regarding the effectiveness and utilization of nonformal education are few and have a limited scope. In part, this can be attributed to the lack of interest on the part of established educational institutions and policies. A further complication is the relatively small scale typical of such projects. For instance, a number of training programs were set up for small craft producers in west African countries (Senegal, Chad, Upper Volta, Niger, Cameroon, The Congo), with the assistance of the ILO. Most of these training programs were oriented toward farming related crafts (bricklayers, blacksmiths), were very small, helping less than 1% of the producers, and involved primarily men only [Trouve 1984 p.63.]. Another project, funded by the Swedish government, consisted of 24 seminars which trained 500 individuals in seven countries. As with many of the smaller projects, evaluation and

monitoring components were not an integral aspect of the program, and it was not possible to confirm the relevancy of the curricula or the impact on employment [Hultin, 1985].

When nonformal programs are large, they often focus on broad universal goals such as adult literacy. For example, the government of Tanzania attempted to develop adult education following the landmark Arusha declaration in 1967. Yet, the Tanzanian population was not wholly convinced of the relevance: one study of village education found lack of attendance to be a major problem; nationally this pattern was well documented by the Ministry of National Education [Kweka, 1987]. Thus, unlike formal education, where the goal of certification is concrete and well established, non formal education promises practical skills that may lack the imprimatur of a widely respected program. Participants of nonformal education are more likely to demand that their time and efforts are well spent in practical skill development. A failure to do so may encourage people to "vote with their feet", as in the Tanzanian case, providing very immediate feedback regarding the perceived utility of a particular program.

Any evaluation of the effectiveness of alternative educational investments must adequately reflect the variations in cost per student across the range of alternatives. Middleton found that the total investment costs per place were among the highest in Africa, particularly for nonformal and secondary education [table3]. The costs of Bank funded non-formal education in Africa exceeded that of secondary education by a factor of nearly six to one. Even considering that nonformal courses typically run one year, while secondary courses last two or three years, the non-formal programs still

operate at costs of at least twice that of formal education. Boarding costs in Africa are one feature that explain the significantly higher vocational and nonformal educational costs [Middleton 1989]. Boarding is normally justified in terms of equity issues, to ensure rural student participation. Considering the rapid growth and specific social and technological requirements of the I.S. in urban areas, there may currently be sufficient grounds to discount traditional rural - urban equity issues. Combined with innovative delivery systems, there is likely to be significant latitude in designing cost effective non formal programs.

Average Planned Total Investment Cost Per Place By Mode and Region[a]

US Dollars

Region	Secondary	Post-Secondary	Non-Formal	Teacher Training	Overall Regional Averages
Africa	3,837	3,975	21,959	30,064	8,458
Asia	1,065	7,368	4,040	9,816	4,041
EMENA	6,448	10,233	4,017	11,187	5,416
LAC	2,315	3,365	10,900	12,625	2,857
Overall Averages	2,961	8,053	4,521	12,951	4,346

Table 3

[a]From Middleton, 1989 p.19

A more recent empirical approach to understanding the relationship between education and the informal sector consists of surveying microenterprise firms in order to learn how owners and employees obtained the necessary skills to function in the marketplace. A comprehensive study of the West African informal sector commissioned by the World Bank, ILO, and OECD, utilizes this technique[World Bank, forthcoming].

Many microentrepreneurs obtain necessary skills and training in the formal sector, followed by informal self employment [McLaughlin 1979]. Considering the relatively limited size of vocational programs in Africa, it should come as no surprise that most informal sector microentrepreneurs and laborers obtain their skills by informal means, through apprenticeship and on the job training. The World Bank study confirms this assumption: only 11% of the entrepreneurs surveyed had any type of pre-service training [World Bank Forthcoming]. This study also found that pre-service training was concentrated primarily in the more technologically sophisticated industries, such as automotive and t.v. repair, as well as in industries were local hygiene laws required specific courses, such as hairdressing and meal preparation. A still smaller percentage, only 7%, had experienced in-service training beyond traditional apprenticeship practices. Interestingly, only 19% of the entrepreneurs felt they had no need of in-service training, the remainder citing unavailability, lack of time, and money as the main obstacles for continued nonformal education.

The overall findings of this recent World Bank study indicates that

microentrepreneurs have few options, and are otherwise uninformed regarding potential training opportunities. The replication of traditional skills through apprenticeship may be limiting technological advancement. It appears that the microentrepreneurs themselves are aware of, and would actively participate, in, skill advancement programs, were they available and affordable; over 50% of those surveyed by the World Bank indicated a desire to attend such training programs. Fully 73% of the firm owners preferred lectures and demonstrations as a mode of learning, over site visits by a specialist (18%) and correspondence courses, books, radio, and t.v. Surprisingly, over half of the sample preferred learning at a government center, over ngo's (17%), on the job (17%), or at home. There are two alternative explanations for this preference: it may simply be due to unfamiliarity with the alternatives; or there may be an underlying assumption that training at a government center will lead to some sort of government employment. The microentrepeneurs were also asked to evaluate the most important skills for their firms: their overall rating was, in rank order, negotiations with customers, costing, training staff, writing, designing, reading, advertising, utilizing new machines, and repair of machines [World Bank forthcoming].

Of particular interest is a set of questions that asked entrepreneurs in different occupations, what were the most important skills they utilized, and where they learned them. While reading and writing were almost universally acquired at school, using a calculator was often identified as having been learned in a training course, on the job, or during apprenticeship, as had product design, written accounts, and costing. By

occupation, those with the highest levels of education, such as t.v. and auto repair, indicated the greatest likelihood of learning how to use a calculator either in school or in a training class.

As a whole, most entrepreneurs felt that their most useful learning experience was apprenticeship (48%), followed by on the job training (27%), and school (11%). Apprenticeship was even more highly valued in the more technical trades, such as auto and t.v. repair, tailoring, weaving cloth, and metalwork. The relatively low identification of in service and vocational training as a useful learning experience is most likely the result of limited exposure and opportunity: in meal preparation, where a number of governments provide in service training; 20% of those surveyed thought it was their most useful learning experience[2] [World Bank forthcoming].

Perspectives from the Caribbean

As we have seen, there is a general dearth of empirical research on nonformal education. As a result, policy recommendations have often been too long on theory and too short on practicality. However, insight can be gleaned from utilizing what available research there is, as well as extrapolating from other geographical areas.

In many ways, the Caribbean region represents a possible model for African

[2]This points out a bias in the study, namely, an emphasis on subjective evaluation. Because microentrepreneurs simply believe that a particular education was the most beneficial does not make it so. An empirical test would be necessary to definitively compare and contrast the alternatives.

development. Countries such as Trinidad and Jamaica have populations with cultural backgrounds quite similar to that of many African countries, however, as "Middle Income"[3] counties, they are wealthier than most in Africa. Perhaps they represent the future for those countries that are able to move up from "low income" status, in any case, their situation is arguably insightful.

Jamaica has successfully implemented universal primary school education, as early as 1970, 96% of the labor force had completed at least five years of schooling [Miller 1990]. I interviewed over 250 microentrepreneurs during 1991 and 1992, with the objective of understanding how educational experience effects the behavior of firm owners and microenterprise financial lenders. I also conducted interviews with managers, loan officers, and non formal trainers who were implementing credit and educational programs specifically aimed at supporting microenterprise. Although space limitations prohibit a thorough discussion of this research, a few highlights might be insightful.

Of the five financial organizations studied, all made significant efforts to compliment credit distribution with some type of formal training program, with four of the institutions conducting mandatory programs "in house". These formal programs varied in length between organizations, ranging from two, hour and a half sessions, to an indeterminate sequence typically consisting of 20 or more two hour sessions, spread over a eight week period. Training programs mandated by lending agencies

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[3]As defined by the World Bank, a few African countries, such as Zimbabwe, Botswana, and Cote D'Ivoire are designated lower middle income countries.

focused on financial issues, such as simplified accounting and costing. These training courses are critical to the institutions, because they affect the sustainability of the organizations, in terms of overall default rates (it is widely believed that low default rates were the result of careful training procedures).

The research findings indicate that organizations are only subjectively aware of their target audience, and have no specific systems in place to evaluate the success of educational intervention. There was no systematic study regarding the utilization of the concepts promoted, nor were there mechanisms with which to evaluate the pedagogical techniques employed. When I asked management how effective their training programs were, I received responses typical of the one that follows:

"That is something we have not really done...We are remise, in that we have never actually done a survey, or study, or have data to support [a particular training program or technique]".

I found that the quality and consistency of the training sessions varied widely within organizations, as different individuals conducted the programs, with virtually no formal monitoring or evaluation procedures. None of the "trainers" were professional teachers, they had little if any instruction regarding even the most basic pedagogical techniques, and had they not had a "captive" audience, it is unlikely that anyone would have been present at all.

Not surprisingly, the results of these training programs were dismal. Although there were extensive efforts to enforce compliance in the use of simplified accounting procedures on the part of microenterprise support agencies, there was little if any bookkeeping or accounting conducted. Despite the fact that many microentrepreneurs had "successfully" completed courses ranging from two to twenty

days, there was insufficient interest in applying what they had learned. Interviews with the firm owners indicated that they understood the material, but were too busy to make use of it. They also frequently cited suspicion of the authorities regarding possible taxation.

Microentrepreneurs seemed to have a very diverse range of opinions regarding the utility of additional training. Most felt they already had the necessary qualifications and training. A little less than half of the microentrepreneurs believed that they could benefit from additional educational programs, but only if they were relevant to their specific business, and filled an identified "knowledge gap" such as technical or marketing problems.

Policy recommendations

What can be learned from the scant empirical data to inform policy regarding education and the informal sector in Africa? Studies have shown that there is a considerable demand on the part of microentrepreneurs to learn specific aspects of their business: the World Bank found that over 50% of their sample had specific training wishes, with an emphasis on technical skills, followed by a combination of technical and non technical skills [World Bank forthcoming].

It is probably a mistake to assume that increasing the overall levels of literacy and numeracy in Africa will allow for more efficient vocational education. Firstly, African microentrepreneurs have identified skill development as their highest priority

item. Secondly, we can see from Jamaica, with a reasonably literate and numerate population, that promoting training in subjects that are not of central concern to the microentrepreneurs themselves is probably a waste of resources. Of particular importance is to provide appropriate skill enhancement training that can be directly transferred to the workplace. We know that in the past, African vocational curricula have been largely designed by expatriate professionals. A central issue, it seems, is to provide a curriculum based on local needs, which utilizes local technology to advance the range and effectiveness of microenterprise.

It is clear that unless microentrepreneurs see a practical return, they will not voluntarily invest their time in training. Using credit as a carrot only serves to force microentrepreneurs through the motions: in the Jamaican case; such incentives fail to inspire microentrepreneurs to put their training into practice. Perhaps the best method of insuring local participation is by utilizing a community development model, configured as a bottom up, rather than a top down, organization. Linkages between curriculum and the kind of work typical of the local informal sector would be very direct. Incentives can be established with long term returns to the microentrepreneurs themselves. For instance, local cooperatives can be organized that provide rotating credit and savings, as well as the purchasing raw materials in bulk. Local or regional experts can be identified to demonstrate new or improved techniques, perhaps utilizing some sort of mobile delivery system (trade schools on wheels).

Considering the importance of traditional apprenticeship in the African informal

sector, there is good cause to consider programs that train the "master" in pedagogical techniques. Incentives will most likely be an important part of such a program, as the microentrepreneurs may not perceive such training as a direct benefit, and may consider the opportunity costs as too high. As an incentive, master's graduates might receive a license which would qualify them to accept government subsidized apprentices, or, they may become targets for placement agencies in pay for apprenticeship services.

Macro policy is also important in developing an efficient educational program for the informal sector. The government of Korea utilized a number of techniques to encourage efficient vocational education. For example, to encourage low status vocational education, the government provided scholarships, exempted graduates scoring above 50% on the national skills licensing examination from military service, and permitted the top 10% of secondary graduates to enter college [Middleton 1989 p41.] They also developed a national system for accreditation of post-secondary junior colleges, to enforce standards on public and private schools. Korea also developed multi-functional agencies and support units for curriculum development and certification, including the Korean National Vocational Training Management agency, and the Korean Institute for Research in Vocational Training.

Another important consideration regarding vocational education and the informal sector is the necessity to weigh the overall costs and benefits. Clearly, monitoring and evaluation criteria should be in place at the very outset of the project, as this has been a major weakness of vocational education in Africa [Psacharopoulos,

1985b]. Monitoring and evaluation should also consider secondary costs and benefits, such as technological and ecological effects, as well as intangible costs and benefits, such as job creation [Gittinger, 1982].

Many microentrepreneurs operate on the margin, often working 12 hour days all week. For many, the opportunity costs of any traditional educational intervention are prohibitive: hence, the World Bank finding that a significant percentage (18%) preferred having a specialist visit their firm. Two possible alternatives to expensive site visits include correspondence and radio programs. Although these alternatives were not the preferred mode of training for African microentrepreneurs, this may be due to a general unfamiliarity with the approach. For example, it was found that many of the Jamaican microentrepreneurs had completed correspondence courses, particularly in the more technical fields such as radio and t.v. repair. Correspondence schools, including radio programming, seem to perform well in both Korea and the Dominican Republic, and the effectiveness might be even greater considering overall equity issues [Psacharopoulos 1985b].

One final suggested policy ~~would~~ is to develop educational institutions which are not only community based, but also derive curricula as a result of some type of market orientation or feedback. For example, auto repair students could apply their knowledge toward the repair and maintenance of the school's and faculty's vehicles, or competitive government contracts could be awarded for the production of a limited range of products and technologies taught at the school. This would promote a closer relationship between the work and school worlds, ensuring that practical and

relevant skills are being taught, as well as subsidizing the overall costs of the institution itself.

The demands placed on African educational institutions by the expansion of the informal sector are likely to surge in the next decade, as self employment becomes an increasingly necessary and popular component of the labor market. With careful and measured policy intervention, African governments will be in a better position to promote the most favorable social, economic, and technological outcomes.

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